

NANOTRIBOLOGICAL PROPERTIES OF ULTRA-THIN METAL, CERAMIC, AND AMORPHOUS CARBON FILMS. James Belak, James N. Glosli, David B. Boercker, and Michael R. Philpott,¹ University of California, Lawrence Livermore National Laboratory, Livermore, CA, ¹IBM Research Division, Almaden Research Center, San Jose, CA. Tribology is the study of interacting surfaces in relative motion, e.g. friction, lubrication, and wear. Nanotribology is the study of tribological processes at the nanometer length scale. The advent of the atomic force microscope and the performance of modern computers have enabled the experimental probing and realistic simulation of surface properties at this length scale. Here we present a brief review of these methods and what can be learned about nanotribological properties of ultra-thin metal, ceramic and amorphous carbon films.

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